Before the

PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Petition of QWEST CORPORATION for Pricing Flexibility for Business Services in the Areas Served by 19 Central Offices	**Docket No. 03-049-50**

Direct Testimony

of

LEE L. SELWYN

on behalf of the

Utah Committee of Consumer Services

September 29, 2003

PUBLIC VERSION

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INTRODUCTION

Qualifications

Q. Please state your name, position and business address.

A. My name is Lee L. Selwyn; I am President of Economics and Technology, Inc., Two Center Plaza, Suite 400, Boston, Massachusetts 02108. Economics and Technology, Inc. is a research and consulting firm specializing in telecommunications economics, regulation, management and public policy.

Q. Please summarize your educational background and previous experience in the field of telecommunications regulation and policy.

A. I have prepared a Statement of Qualifications, which is attached as Attachment 1 hereto.

Q. Have you testified in other matters before the Utah Public Service Commission?

A. Yes. My first appearances before this Commission were on three occasions in the early 1980s. In 1981, I provided testimony in Docket No. 80-049-01 concerning the rate design proposals of Mountain States Telephone and Telegraph Company (the predecessor to Qwest-Utah, a/k/a "Mountain Bell") for terminal equipment, key systems, Centrex, and private lines, on behalf of the State of Utah Department of Finance, University of Utah, Utah State University, Weber State College, and Brigham Young University. In 1982, I provided further testimony on Mountain Bell rate design issues in Docket No. 81-049-11, on behalf of the same group of clients, and appeared for that group once again in 1984, when I testified in Docket No. 84-049-01 regarding business local exchange service rate design issues.

In 1999, my firm was engaged by the Division of Public Utilities ("Division") to assist in the development of a price caps plan in conformance with Utah Code Section 54-8b-2.4-5(a) (the recently-enacted price cap regulation statute) that could be applied to the regulated intrastate services of Qwest's predecessor, US West Communications Inc. ("US West" or "USWC"). ETI's final report, *Price Cap Plan for USWC: Establishing Appropriate Price and Service Quality Incentives in Utah* (March 22, 2000) served as the basis for the Division's price cap recommendations to the Commission. The Commission ultimately adopted a price cap plan closely modeled on the Division plan in Docket 00-999-04, and the plan became effective for USWC on June 15, 2001.

In October 2001, Qwest sought a change in the productivity factor applied in its price cap plan, which led the Commission to open Docket No. 01-049-78. I submitted testimony in that proceeding on behalf of the Division, which responded to Qwest's request and provided an update to the total factor productivity evidence submitted in ETI's March 2000 report.

Also in 2001, I submitted direct and rebuttal testimony in Docket No. 00-999-05 on behalf of Pac-West Telecomm, Inc. and XO Communications, Inc. on the subject of intercarrier compensation.

Assignment

Q. By whom were you engaged, and what was your assignment in this proceeding?

A. ETI has been engaged by the Utah Committee of Consumer Services ("Committee") to provide expert assistance and analysis with respect to the issues raised by Qwest's *Petition for Pricing Flexibility for Business Services*[1] and Qwest's supporting testimony, and to present testimony before this Commission setting forth the results of that analysis.[2] ETI was asked to address the economic issues raised by Qwest's petition

1. Before the Public Service Commission of Utah, *In the Matter of the Petition of QWEST CORPORATION for Pricing Flexibility for Business Services in the Areas Served by 19 Central Offices*, Qwest's Petition for Pricing Flexibility for Business Services, July 1, 2003 ("Qwest Petition").

2. ETI's engagement by the Committee also encompasses provision of expert assistance and analysis relating to Qwest's parallel pricing flexibility petition for certain residential services, which is addressed in separate prefiled testimony in Docket No. 03-049-49.

and supporting testimony of Qwest's witness David L. Teitzel.[3] Specifically, the Committee asked ETI to address the issue of whether the Commission should apply a price cap, pursuant to Utah Code Ann. § 54-8b-2.3(8), to business services for which the Commission determines that Qwest should be granted pricing flexibility.[4]

Summary of Testimony

Q. Please summarize the testimony you are presenting at this time.

A. On July 1, 2003, Qwest filed a Petition that asked the Commission to grant it pricing flexibility pursuant to Utah's pricing flexibility statute, Utah Code Ann. § 54-8b-2.3, for an array of business services as offered in nineteen exchanges in the state. If pricing flexibility were to be granted, those services in the nineteen exchanges would be detariffed, and Qwest would be able to offer the services on the basis of a price list, by which Qwest could unilaterally raise or lower its prices without restraint by the Commission.

My testimony addresses the issue of whether the Commission should apply a maximum price limitation or "price cap," pursuant to Utah Code Ann. § 54-8b-2.3(8),

3. Direct Testimony of David L. Teitzel for Qwest Corporation, July 1, 2003 ("Teitzel (Qwest)").

4. ETI was not requested to address the issue of whether Qwest has satisfied the statutory conditions for obtaining pricing flexibility.

to any of the services and exchanges that the Commission may determine have qualified for pricing flexibility.

As an economic matter, the purpose of such pricing flexibility would be to allow Qwest to respond to price competition posed by new entrants (competitive local exchange carriers or "CLECs"). The ability to adjust price-listed rates is less targeted than customer-specific contracts (which are also permitted under a grant of pricing flexibility), but also allows Qwest to meet lower prices that might be offered by new entrants seeking to lure away Qwest's retail customers or to sign up new customers that might otherwise choose Qwest's services. Thus, if Qwest was facing pressure from competitors to offer lower rates than those in its tariffs, one would expect to see at least some price-listed services with rates lower than the currently effective tariffed rate.

In fact, however, Qwest has generally employed its prior grants of pricing flexibility to escape from the requirement to implement rate reductions that would otherwise be occurring under the operation of the Commission's price cap regulatory framework. Those price cap driven rate reductions are being reflected in Qwest's tariffs, but do not apply to any services for which Qwest has thus far obtained pricing flexibility. Consequently, Qwest's charges for services subject to pricing flexibility are actually *higher* than the rates for the corresponding services that have not been detariffed. I present a comparison of Qwest's price-listed rates for business services under flexible pricing to its current tariffed rates, and show that Qwest typically charges *more* for those services under its price list than for similar services that remain subject to tariffs.

Moreover, *none* of those services have a price-listed rate that is lower than the current tariff rate, as one would expect if pricing flexibility were actually being used by Qwest to respond to price pressure from competing service providers rather than simply as a device to extricate itself from annual price cap rate decreases.

In general, the differences between the price-listed rates and the current tariffed rates that I have identified reflect the fact that price-listed rates are exempt from the operation of the price cap framework applied to other Commission-regulated services of the Company. Because that price cap plan includes a significant productivity factor to reflect achievable productivity gains by the Company, the annual operation of the price cap has caused Qwest's tariffed rates to fall in aggregate by a few percent per year since it was implemented in 2001. In contrast, Qwest has simply held its rates in the price list constant over time, so that they have been steadily increasing relative to the tariffed rates. This has resulted in the perverse and (presumably) unintended situation that consumers in purportedly "competitive" exchanges are being forced to pay more for their Qwest services than do consumers in the presumably noncompetitive exchanges subject to price cap regulation. This kind of pricing behavior cannot be justified by Qwest as any valid "competitive response" to pricing pressure from CLECs. Instead, Qwest is simply using pricing flexibility to evade the operation of the price cap formula and the overall price decreases it demands in order to recognize achievable net annual improvements in the Company's productivity.

I have also reviewed the evidence on competitive activity that is provided in Mr. Teitzel's prefiled testimony in this proceeding. Unfortunately, that evidence tacitly and erroneously assumes that all users of business exchange services can be lumped into a single, undifferentiated market. In fact, there are important distinctions between the smallest businesses that purchase individual business access lines in small quantities, and the larger and more sophisticated businesses and institutions often referred to as "enterprise" customers. The FCC has made recognition of those distinctions a cornerstone of the market analysis has undertaken in its recent Triennial Review order.

I also find that the evidence of competitive entry for business services that he has presented falls far short of what would be needed to demonstrate that business competition has developed sufficiently to constrain Qwest's pricing of its business local service offerings to just and reasonable levels. Nowhere in his testimony does Mr. Teitzel specifically address, let alone provide evidence concerning, the issue of whether Qwest continues to hold market power with respect to its business services, i.e., the ability to raise prices without suffering a serious loss of consumer demand for its services.

To answer that question, three types of evidence must be presented and evaluated, namely evidence concerning *market share, demand elasticity, and supply elasticity.* I present an analysis of each of these factors, and conclude that Qwest continues to possess significant market power for business exchange services throughout the business exchanges, so that a Commission-prescribed price cap is warranted.

First, I have analyzed Qwest's market share for business exchange services, based on March 30, 2003 access line counts provided by Mr. Teitzel. I estimate that Qwest's share of the aggregate market is at least 92.7%. I also have evaluated the degree of market concentration using the standard economic measure known as the Herfindahl-Hirschman Index ("HHI"). I find that the HHI for the business exchange market overall is at least 8,584. This value is far beyond the 1,800 minimum threshold for a "highly concentrated market" applied by the 1992 United States Department of Justice/Federal Trade Commission Horizontal Merger Guidelines. Moreover, given that the Commission has stated that a market's HHI value must be below 5,000 "to begin to be considered somewhat competitive,"[5] the business market as a whole fails to satisfy even that more liberal guideline. These results indicate that there is little chance that the market is sufficiently competitive to constrain Qwest's business service price levels absent continued regulatory protections.

These conclusions remain the same when Qwest's market share and market concentration (HHI) are analyzed on a wire center-by-wire center basis. Using the counts of competitive line loss reported by Mr. Teitzel (as of March 30, 2003), I have calculated conservative, lower-bounds estimates of HHIs by wire center based solely upon Qwest's market share in each exchange. For *every one* of those business exchanges,

5. *The Status of Telecommunications Competition in Utah,* Fifth Annual Report to the Governor, Legislature, the Public Utilities and Technology Interim Committee, and Information Technology Commission, November 2002 ("Fifth Annual Report"), at page 16. While the Commission's report expresses HHI values as decimals (e.g., 0.50), for consistency I have converted them into the scale used in the 1992 Merger Guidelines (e.g., 5000).

the HHI value (conservatively estimated by calculating relative to Qwest's market share only) is above 7,000, and thus far in excess of the 1,800 threshold for a finding under the Horizontal Merger Guidelines of a "highly concentrated" market. Given these results, I conclude that Qwest continues to have a dominant share of the business exchange services market in each of the business exchanges at issue, which strongly supports a finding by the Commission that a price cap should be applied to constrain Qwest from potentially abusing its market power.

These conclusions are corroborated by consideration of the elasticity of both demand and supply for business exchange services. There are no indications that the demand elasticity for business exchange services in Utah is sufficiently high to prevent Qwest from exercising its market power. On the supply side, CLECs' ability to expand output in the event of a unilateral price increase by Qwest has been greatly curtailed by their precarious financial condition and consequent lack of access to investment capital. Moreover, because of a narrow resale discount (12.2%) and relatively high UNE prices, using Qwest-provided wholesale services generally is not feasible as an economic matter. These circumstances exacerbate the supply constraints faced by CLECs, and thus contribute to the relatively inelastic supply conditions that they confront in Utah.

Finally, I have considered CLEC resale of Qwest's business exchanges services, and explain why those services are unable to constrain the prices of Qwest's business exchange services.

In conclusion, I find that despite the presence of *some* competition in the business service market (taken without any internal differentiation), Qwest's business exchange services are not subject to effective, price-constraining competition at this time. As a result, Qwest remains the dominant supplier and price-setter in the market, and would have the opportunity and ability to exercise its market power and reap supracompetitive profits absent an appropriate regulatory protection. Qwest has used its existing pricing flexibility under such a cap only to escape from the operation of the price cap regulation rule. In order to prevent this from recurring in any of the business exchanges granted pricing flexibility, the price cap should be set equal to the corresponding tariffed rate in effect under the price cap regulation rule, as periodically adjusted by the Commission-approved annual price cap filings. This will ensure that business consumers in any flexibly-priced exchanges will not end up paying higher prices in the putatively "competitive" exchanges than they would confront where such "competition" is not present.

APPLICATION OF PRICE CAPS TO FLEXIBLY-PRICED SERVICES

Qwest seeks to obtain pricing flexibility for business services in nineteen additional Utah exchanges.

Q. Dr. Selwyn, what is your understanding of the specific actions that Qwest is asking the Commission to take in its *Petition for Pricing Flexibility for Business Services*?

A. Qwest filed its *Petition for Pricing Flexibility for Business Services* ("Petition") on July 1, 2003. In that Petition, Qwest asked the Commission to grant it pricing flexibility, pursuant to Utah's pricing flexibility statute for incumbent local exchange carriers ("ILECs"),[6] for most of its business services as offered in nineteen exchanges in the state. Basic business local exchange service, Extended Area Service ("EAS"), and business custom calling services would all be affected. The local exchange services targeted for pricing flexibility include:

- Individual Business Dial Tone line rates;
- Analog Trunks (In-only, Out-only, and 2-way);
- Direct-Inward Dialing ("DID") and Hunting charges;
- Primary Interexchange Carrier ("PIC") Change fees;
- Toll Restriction charges;
- Directory listings services; and

6. Code Ann. § 54-8b-2.3(2)(b)(i).

- Call Forwarding, Call Waiting, and other custom calling features.

A full listing of the business services for which Qwest is seeking pricing flexibility is provided in Exhibit DLT-4 of Mr. Teitzel's prefiled testimony. The nineteen business exchanges at issue are distributed throughout Qwest's service territory in Utah, including exchanges in the Salt Lake City MSA (Ogden North, Ogden South, Huntsville, and North Salt Lake), exchanges in the Provo MSA (Payson, Salem, and Santaquin), and the Cedar City, Hurricane, and St. George exchanges in the southwest corner of the state. A complete list of the business exchanges is provided at page 7 of Mr. Teitzel's prefiled testimony.

If pricing flexibility were to be granted, Qwest would be able to offer those services by means of a price list or a competitive contract. Each price list would have to describe the telecommunications service being offered, the basic terms and conditions of service, and list the prices to be charged.[7] While Qwest would be required to file its price lists and competitive contracts with the Commission,[8] it is my understanding that the Commission would not have any ability to review or alter the prices that Qwest establishes by those price lists or contracts,[9] and that Qwest could unilaterally change a

7. Code Ann. § 54-8b-2.3(4).

8. Code Ann. § 54-8b-2.3(7).

9. I am not an attorney and am not offering a legal opinion. It does appear that under certain circumstances, the statute empowers the Commission to revoke the ILEC's authority to offer service via a price list or competitive contract, but such a step would be very dif-

(continued...)

price-listed rate simply by filing a new price list, which would take effect five days after it was filed with the Commission.[10]

Q. Does Qwest's Petition address the issue of whether or not the Commission should apply a maximum price level or "price cap" to services that are granted pricing flexibility?

A. No. Qwest's Petition does not make any reference to the issue of whether a price cap (maximum allowable price level) should be applied to services for which pricing flexibility is granted. Moreover, Mr. Teitzel's supporting testimony does not address the issue. In the parallel case concerning residential pricing flexibility, Mr. Teitzel notes that Qwest has opposed the Commission's decision to apply a price cap to flexibly-priced residential services under some conditions, and states that "Qwest is requesting that previously established price caps be removed and no new caps established."[11] In the instant case, Qwest appears to be assuming that the Commission will not apply a price cap to any business services deemed to satisfy the price cap statute, so that the Company would be free to price those services without any regulatory limitation on potential price increases.

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9. (...continued)
ferent from regulatory oversight and adjustment of Qwest's prices per se. See Code Ann. § 54-8b-2.3(9).

10. Utah Code Ann. § 54-8b-2.3(6).

11. Docket No. 03-049-049, Direct Testimony of David L. Teitzel, July 1, 2003, at page 15, lines 7-8.

Q. Has the Commission previously granted pricing flexibility for any Qwest services under the pricing flexibility statute?

A. Yes. The Company's first filing for pricing flexibility under the statute related to business services in ten exchanges along the Wasatch front. In that case, the Commission found that Code Ann. § 54-8b-2.3(8) grants it the authority to set a price cap on a flexibly-priced service if it finds that doing so is necessary to protect the public interest.[12] While the Commission refrained from adopting a price cap for business services in that case, when Qwest subsequently sought pricing flexibility for its residential services in areas served by (then) AT&T Broadband, the Commission adopted a maximum price (which the statute refers to as a "price cap") for those services set equal to their then-current tariffed rates.[13] In the latter decision, the Commission concluded that:

> The current record reflects that Qwest has met the conditions for pricing flexibility set out by statute. The record is also clear that the likely ability

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12. *In the Matter of the Petition of US WEST COMMUNICATIONS, INC., for Pricing Flexibility*, Docket No. 99-049-17, Report and Order, September 1, 2000, at Conclusion of Law number 7.

13. *In the Matter of the Application of AT&T Broadband Phone of Utah, LLC for a Certificate of Public Convenience and Necessity to Provide Switched and Dedicated, Resold and Facilities-Based Local Exchange and Resold and Facilities-Based Interexchange Services in the State of Utah,* Docket No. 01-2383-01 Report and Order, January 28, 2003, at Conclusion of Law number 5 and Ordering Paragraph number 6.

> of the "market forces" to perform the consumer protection function envisioned by the Legislature is remote at best.[14]

As I shall demonstrate later in my testimony, the Commission's latter conclusion is equally applicable to the Company's new Petition.

Q. What does Qwest's request for the discretion to *increase* prices in markets that are ostensibly subject to competition suggest as to the actual degree of competition in those markets?

A. Obviously, if Qwest was actually feeling pressure from competitors who are, presumably, offering services at lower prices, it would be reasonable for the Company to seek the flexibility to reduce its own prices in response. It is far less obvious, however, that Qwest would need the ability to *increase* prices in response to competition *other than for the purpose of generating increased revenues from services that might nominally satisfy the threshold condition for pricing flexibility but for which actual effective competition is not in fact present for the purpose of cross-subsidizing its lower prices for services that do confront actual competitive pressure*. The Commission can reasonably conclude that the only situation in which the Company would want the ability to *raise* prices is where it has the *economic* ability to do so, i.e., where there is no effective price-constraining competition in the market such that Qwest continues to enjoy a *de facto* monopoly. In such cases, there would be no economic basis for the Commission to afford Qwest the pricing flexibility it is seeking. Hence, in the event that

14. *Id.*, at page 6.

the Commission determines that Qwest has met the statutory criteria for the business pricing flexibility being sought in its Petition, it would be highly inappropriate to permit any upward pricing flexibility, so that, at a minimum, a price cap equal to the current tariffed rates (as may be adjusted by the Company's annual price cap rule R746-352 filings) should be adopted.

Qwest has not used its previously-granted pricing flexibility to offer lower prices in response to pricing pressure from competing service providers, but instead to escape from rate decreases due under the Commission's price caps regulatory framework.

Q. Have you performed an analysis of how Qwest has used the pricing flexibility that the Commission has already granted to the Company?

A. Yes, I have.

Q. What is the purpose of that analysis?

A. When considering the potential need to limit upward pricing movements by means of price caps, it is essential that the Commission examine how Qwest has actually used the pricing flexibility that it already has been awarded. In fact, as I explain in more detail later in my testimony, the Commission specifically considered and relied upon evidence of Qwest's prior pricing behavior in its decision to impose a price cap in Docket No. 02-049-82.

As an economic matter, the purpose of pricing flexibility is to allow an ILEC such as Qwest to respond rapidly to price competition posed by new entrants. The pricing flexibility permitted under the statute provides two main vehicles for this to occur, individual customer contracts and price lists. For example, when a business customer in Qwest's service territory negotiates both with Qwest and with alternative service providers for the best deal it can obtain on a significant quantity of access lines, pricing flexibility would allow Qwest to bid for that service on an equal footing with the CLECs, and offer a contract price that would be seen as comparable to what the CLECs could offer, even if it is significantly lower than the tariffed rate and is thus not being offered generally to all Qwest customers. The ability to adjust price-listed rates is less targeted, but also allows Qwest to respond to lower prices that might be offered by new entrants seeking to lure away Qwest's retail customers or to sign up new customers that might otherwise choose Qwest's services. Thus, if Qwest was facing pressure from competitors to offer lower rates than those in its tariffs, one would expect to see at least some price-listed services with rates lower than the currently effective tariffed rate.

Q. Has Qwest been using its previously-granted pricing flexibility to offer lower price-listed rates than its tariffed rates?

A. No, it has not. To the contrary, Qwest generally has employed its existing flexible pricing authority to escape the requirement for rate reductions that would otherwise arise under the operation of the Commission's price cap regulatory framework, R746-352. As a result, rates for services still subject to tariff have decreased (due to the operation of the price adjustment mechanism in the price cap plan), whereas the *de-tariffed* price list rates have remained unchanged. Put another way, since the purpose of the price cap rate adjustment mechanism (GDP-PI – X) is to flow-through to consumers Qwest's cost decreases resulting from productivity gains, prices that are permitted to escape this flow-through requirement (those subject to pricing flexibility) that remain unchanged are essentially a rate increase.[15]

Table 1 below presents a comparison of Qwest's price listed rates for business services under flexible pricing with its current tariffed rates for the same services in areas in which pricing flexibility has not been permitted. As shown in the table, Qwest typically charges *more* for the service under its price list than under its current tariffed rates. For example, Qwest's current tariffed rate for an individual Business Dial Tone line is $14.00 in the Urban and Suburban exchanges, and $16.00 in the Rural exchanges. Qwest's Price List disaggregates pricing for individual Business Dial Tone lines into three groupings of wire centers: Within all Group 1 exchanges, subscribers pay $16.67 regardless of their Urban/ Suburban/Rural designation; all Group 2

15. In the price cap mechanism, the GDP-PI (Gross Domestic Product Price Index) represents economy-wide price inflation, which is offset by a productivity factor ("X"), a factor intended to measure the amount by which the change in LEC productivity differs from the change in productivity for the U.S. economy as a whole plus the amount by which the change in input prices for the U.S. economy as a whole differs from the change in LEC input prices. The Commission prescribed the X-factor to be 4.955%. See Docket 01-049-78, *Report and Order*, issued December 31, 2001.

exchanges pay $16.00; and Group 3 exchanges pay $16.00 for Urban and Suburban wire center, and $16.67 for the Rural wire centers.

Table 1

Qwest has not used pricing flexibility for business services to respond to competition with lower rates

Business service	**Tariffed Rate**	**Current Price from Price List**		
		Group 1	Group 2	Group 3
Business Dial Tone Line				
Urban rate area	$ 14.00	$ 16.67	$ 16.00	$ 16.00
Suburban rate area	$ 14.00	$ 16.67	$ 16.00	$ 16.00
Rural rate area	$ 16.00	$ 16.67	$ 16.00	$ 16.67
Business Individual usage	$ 2.59	$ 2.70	$ 2.59	$ 2.59
Message Usage Trunks, Hotel (first and additional)	$ 2.14	$ 2.23	$ 2.14	$ 2.14
Trunk Message Unit Charge, per message unit	$ 0.08	$ 0.08	$ 0.08	$ 0.08
Flat Usage Trunks (subscribing to 50 or fewer Rate Stabilized PBX Trunks)	$ 5.18	$ 5.40	$ 5.18	$ 5.18
Direct Inward Dialing, In-only Analog Trunk	$ 34.70	$ 36.55	$ 36.55	$ 36.55

Sources: Qwest Exchange and Network Services Tariff; Qwest Price List (Utah)

If Qwest were actually facing competition as it claims, one would expect it would *reduce* rates rather than raise them. However, in *none* of these cases is the price-listed rate *less* than the current tariffed rate. Table 1 shows that the same pattern holds true for Business Individual Usage, Flat-rate Usage Trunks, Hotel Message Usage Trunks, Direct Inward Dialing ("DID") Trunks, and Trunk Message Unit charges. Moreover, I have not found any counterexamples, i.e., cases in which Qwest has used its price list to lower the rate for a business service to a level below the effective tariffed rate. I reviewed the other rates and charges appearing in Qwest's business exchange services tariffs and price lists, and did not identify any other instances in which Qwest's price listed rate differed from the current tariffed rate.[16]

Q. For those cases in which a business service's price-listed rate is higher than the current tariffed rate, how did those differences come about?

A. In general, the differences between the price-listed rates and the current tariffed rates that I identified in Table 1 reflect the fact that price listed rates are exempt from the operation of the price cap framework applicable to other Commission-regulated services of the Company. Because that price cap plan includes a significant productivity factor to reflect achievable productivity gains by the Company (which the Commission has set at 4.955% per year, including the input price differential), the annual operation of the price cap has caused Qwest's tariffed rates to fall in aggregate by a few percentage points per year since it was implemented in 2001. In contrast, Qwest has simply held its rates in the price list constant over time, so that they have been steadily increasing relative to the tariffed rates. For example, in the Company's most recent price caps filing, Qwest reduced the tariffed rate for DID In-Only analog trunks from \$36.55 to \$34.70, a 5.3% decrease, but left the price-listed rate for that service at the higher \$36.55 level. Similarly, the individual Business Dial Tone rates in Qwest's

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16. For example, for Business Extended Area Service ("EAS"), no changes to Flat Usage or Message Usage service EAS rates have occurred under the pricing flexibility granted on September 1, 2000. Compare Qwest's Exchange and Network Services Tariff Section 5.1.1, archived 10/10/00 (eff. date 1/5/98), to the current Price List, Section 5.1.1.

price list equal the former tariffed rates, prior to the latest rate reductions that occurred as a result of the year 2003 price caps filing. From the consumer's point of view, this trend might well be considered as "passive" rate increases.

Q. What do you mean by "passive" rate increases?

A. In these instances, Qwest is not actively raising the prices charged under its price list, but nevertheless the customers taking service under the price lists — purportedly in a "competitive" exchange — end up paying more than the Qwest subscribers in the "non-competitive" exchanges who pay the tariffed rate. On a relative basis, the end result is the same as an affirmative price increase, albeit less visible to the consumer. In any event, it is quite clear that this kind of pricing cannot be justified by Qwest as any valid "competitive response" to rival offerings, if indeed any such rivals actually exist. In reality, Qwest is using its pricing flexibility to extricate itself from price decreases that result from the operation of the price cap formula in order to recognize achievable net annual improvements in the Company's productivity.

Qwest's evidence of competitive entry for business services falls far short of a demonstration that business competition has developed sufficiently to constrain Qwest's pricing of its business exchange services to just and reasonable levels.

Q. Dr. Selwyn, have you reviewed the evidence on competitive activity that is provided in Mr. Teitzel's prefiled testimony in this proceeding?

A. Yes, I have.

Q. In your view, is that evidence sufficient to demonstrate that Qwest is now subject to enough pricing pressure from competitors so that there is no need for the Commission to apply price caps to constrain the maximum prices the Company may charge for the services listed in its Petition?

A. No, certainly not. The evidence of competitive entry for business services presented in Mr. Teitzel's prefiled testimony falls far short what would be needed to demonstrate that business competition has developed sufficiently to constrain Qwest's pricing of its business local service offerings to just and reasonable levels. Until the Company can make that demonstration, the Commission should continue to protect business consumers from the prospect of unconstrained price increases, as could occur if pricing flexibility were granted without a Commission-prescribed maximum cap on prices.

Q. What evidence does Qwest supply concerning competitive activity relative to its business services?

A. Mr. Teitzel's prefiled testimony purports to provide evidence on a wire center-by-wire center basis concerning competitive activity relating to its business services, including such items as:

- Number of UNE-P and resold lines supplied by Qwest that are used to serve business customers;
- Whether or not CLECs are collocated in the exchange;
- Lines claimed to have been “lost” to competitors; and
- Which CLECs (and wireless carriers) offer service in the exchange.[17]

Mr. Teitzel has also provided a matrix comparing its business services to the service offerings, including prices, available from the CLECs.[18] In addition, his Exhibit DLT-7 contains copies of advertising and product description materials from various CLECs.

Q. What is missing from the Company’s analysis of competitive activity?

A. As a threshold matter, the evidence of competitive activity supplied by Mr. Teitzel tacitly and erroneously assumes that all users of business exchange services can be lumped into a single, undifferentiated market. In fact, there are important distinctions between the smallest businesses that purchase individual business access lines in small quantities, and the larger and more sophisticated businesses and institutions often referred to as “enterprise” customers. For example, enterprise customers typically require multiple business access lines at a given location and can obtain them economically via high-capacity digital DS1-level trunks. While the economic breakeven point

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17. See Teitzel Exhibit DLT-1.

18. Teitzel Exhibit DLT-3. Qwest also provides a similar comparison matrix for wireless services, see Teitzel Exhibit DLT-7.

between purchasing several individual business access lines and a single DS1 trunk can vary depending upon their pricing, the FCC has routinely applied a threshold of four access lines, so that business customers requiring no more than four lines are considered to be in the business mass market, whereas customers requiring more than four lines are considered to be enterprise customers.[19] In fact, in the recently-released *Triennial Review Order*, the FCC has determined that business services should be analyzed in terms of three separate markets. As expressed therein:

> Based on the record before us, it is reasonable to distinguish these three classes of customers —- mass market, small and medium enterprise, and large enterprise — for several reasons. These classes can differ significantly based on the services purchased, the costs of providing service, and the revenues generated.[20]

By failing to make similar functional distinctions among users of its business services in Utah, Qwest has provided an inadequate record for the Commission to evaluate the true extent of competition for Qwest's business services.

Notwithstanding that basic problem, nowhere in his presentation does Mr. Teitzel specifically address, let alone provide evidence concerning, the issue of whether Qwest

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19. See, e.g., *In the Matter of Review of the Section 252 Unbundling Obligations of Incumbent Local Exchange Carrier*, CC Docket No. 01-338; *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98; *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, *Report and Order and Order on Remand and Further Notice of Proposed Rulemaking*, Rel. August 21, 2003 ("*Triennial Review Order*"), at para. 430.

20. *Id.*, at para. 124. See also para. 123, which concludes that "these customer classes can be sufficiently different that they constitute major market segments."

continues to hold market power for its business services, i.e., the ability to raise prices indefinitely so as to earn supra-competitive profits.

Q. Please explain this last point.

A. Economists consider a firm to possess market power if it can increase its prices above the competitive level without losing so many customers as to make the price increase unprofitable.[21] That capability will generally exist where (a) the product or service is viewed by consumers as a *necessity* (i.e., where the market demand is relatively price-inelastic), and (b) where there are no close substitutes. Basic (small) business local exchange telephone service is obviously an absolute necessity, as demonstrated by the fact that virtually every US business operating out of a fixed, permanent location has at least one telephone line. Basic business local exchange telephone service also has no close substitutes (alternatives such as wireless phones are sometimes being proffered as substitutes for wireline service, but wireless is not a practical alternative for businesses with a fixed, permanent location[22]). If competing providers of basic (small) business local exchange telephone service are actively providing service in a market, their offerings would then be close substitutes for the ILEC's service, thereby

21. The 1992 Horizontal Merger Guidelines applied by the U.S. Department of Justice and Federal Trade Commission when conducting merger reviews defines market power as follows: "Market power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time." 1992 Horizontal Merger Guidelines, Section 0.1.

22. For example, a wireline local exchange service line is needed for even the smallest business to process credit card authorizations.

constraining the ILEC's price. However, fringe competition of the type being portrayed in the anecdotal evidence offered by Mr. Teitzel does not offer a sufficiently available substitute that it can constrain Qwest's prices. Indeed, since much of the underlying service that is being offered by many CLECs is actually being provided by Qwest itself, there may be no independent sources of a substitute service for Qwest's small business local exchange services even in an exchange in which some CLEC activity is present.

In order to determine whether the markets for business exchange services in Qwest's service territory (in this case, limited to considering only the business wire centers identified in the Petition) are sufficiently competitive to make Commission-imposed price caps unnecessary, the key question that must be answered is whether Qwest, as the incumbent and historically dominant service provider, continues to possess market power with respect to those services. In general, the factors influencing the extent of a firm's market power are its *market share*, the *demand elasticity* confronting the firm ("firm price elasticity"), and its *elasticity of supply*.

Market share generally refers to the percentage of the total market served by a particular firm, and can be defined in a number of ways; those most relevant in the local exchange market would include measurements of access lines served, and revenues. Access line data is the most readily available, and therefore the most commonly used, in assessing market share. As I explain in more detail later in my testimony, recognizing the vertically integrated nature of Qwest's operations, market share needs to be assessed separately with respect to the underlying network services (facilities-based competition) and with respect to Qwest's retail operations (facilities-based and resale competition at the retail level).

Firm demand elasticity measures a customers' willingness and/or ability to modify the quantity of a good or service purchased from a given firm in response to a change in that firm's price. In a competitive market where rival firms offer similar, and hence substitutable products, an attempt by any one firm to increase its price will cause customers to switch to an alternative supplier, and the price-raising firm will lose business. On the other hand, if there are no close substitutes *and* the good or service is viewed by the customer as *essential* (such as a core telephone or other public utility service), customers will not materially curtail their consumption of the product or service when its price rises. An examination of the price elasticity of demand for local exchange services confronting Qwest in Utah would thus provide a good indication of the extent to which customers are afforded actual competitive choices in the marketplace.

Supply elasticity measures the extent to which firms are able to expand or contract their output in response to market price and other market conditions. Generally, if firms are able to rapidly adjust their supply — and particularly to increase it — in response to a price change, this will tend to limit any one firm's ability to maintain supracompetitive prices, thereby limiting or eliminating that firm's market power. On the other hand, if competitors are not able to expand supply when another firm in the market increases prices, the firm imposing the price increase will have the ability to maintain excessive prices over an extended period of time, which would demonstrate its market power.

Q. Does Qwest's evidence address these three key market measures?

A. No, it does not. All that Qwest has provided is access line count data for itself and for CLECs, which can be used to develop some estimates of market share. Otherwise, Qwest has essentially ignored these measures, and thus offers no evidence of the kind necessary to determine whether the business markets for which it seeks pricing flexibility are sufficiently competitive that Commission-imposed price caps would be unnecessary.

Nevertheless, by considering the available data on Utah's business services markets and the dynamics of local exchange market entry, it is possible to reach conclusive findings relative to each of the three market measures as they apply to those services. In fact, I have performed just that sort of analysis, and the following sections of my testimony address each of the measures in turn, and present my results. While further refinements could be made, my overall conclusion is that there is little doubt that, within the nineteen listed exchanges, Qwest continues to possess substantial market power relative to each of the business local exchange services for which it seeks pricing flexibility, so that application of maximum price "caps" for those services is clearly warranted.

Qwest maintains an overwhelming share of the business local exchange service markets throughout the nineteen exchanges addressed in its Petition.

Q. In order to measure Qwest's business service market share, is it sufficient to simply calculate the number of Qwest retail access lines as a percentage of all end users' access lines?

A. No, it is not. In order to evaluate Qwest's market share properly, it is necessary for analytical purposes to view Qwest as operating in two separate and distinct markets — (1) the physical production of the underlying network functions and services that are provided both to Qwest's own end use customers as well as to its competitors either for straight resale or for use in their own production of services furnished to the competitors' own end use customers, and (2) the retailing of the underlying services by Qwest directly to its own end use customers.

It is thus useful to view Qwest as a vertically integrated firm that both *produces* the underlying services and then *retails* the services it produces to its end use customers in a downstream retail market. Figure 1 provides a schematic diagram of this vertical integration. In this context, Qwest's operation is analogous to a manufacturing firm that both operates its own chain of retail stores as well as distributes its products through independent (non-affiliated) retailers, as illustrated in Figure 2.

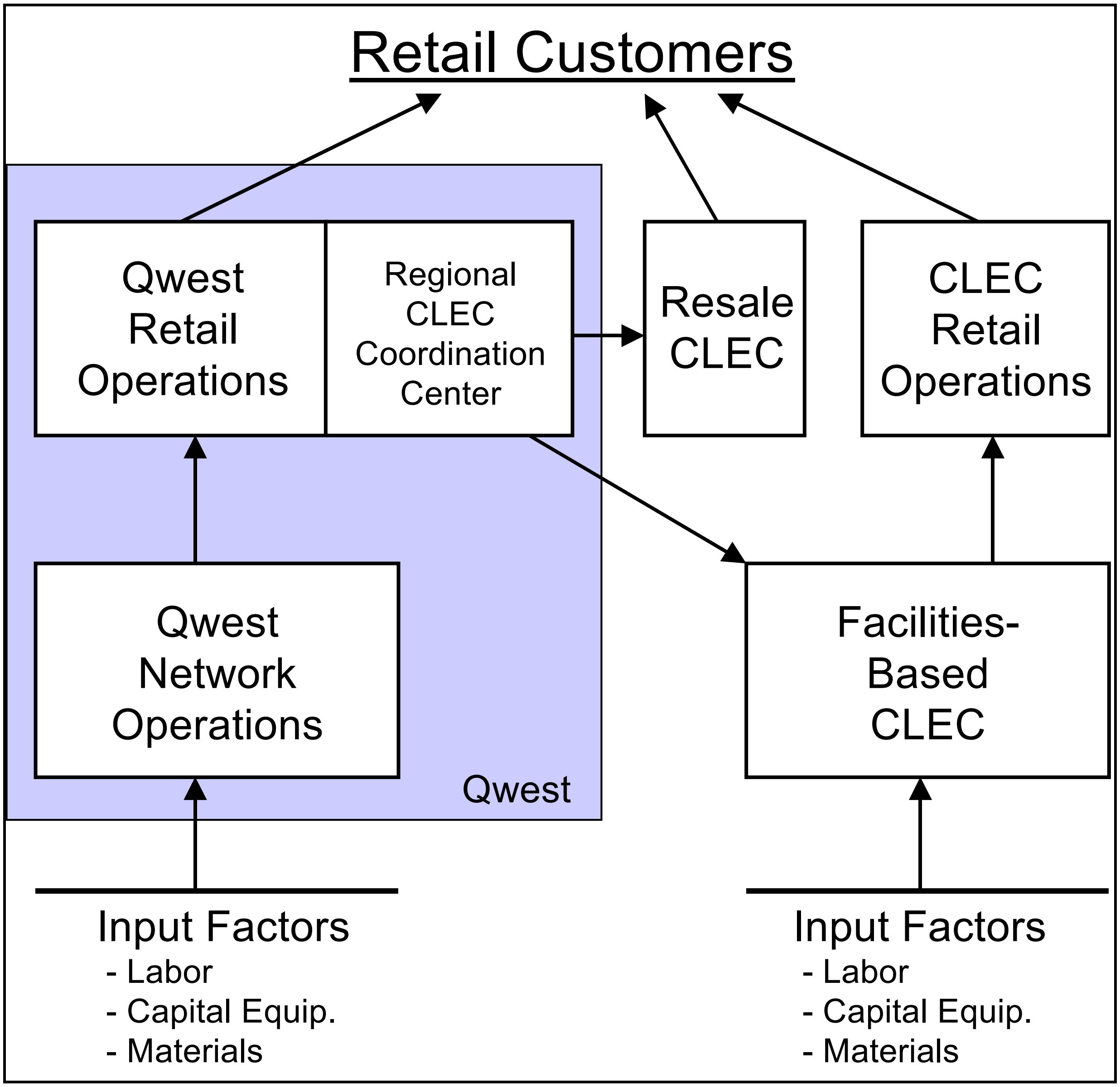

Figure 1. Existing Qwest Vertically Integrated Structure

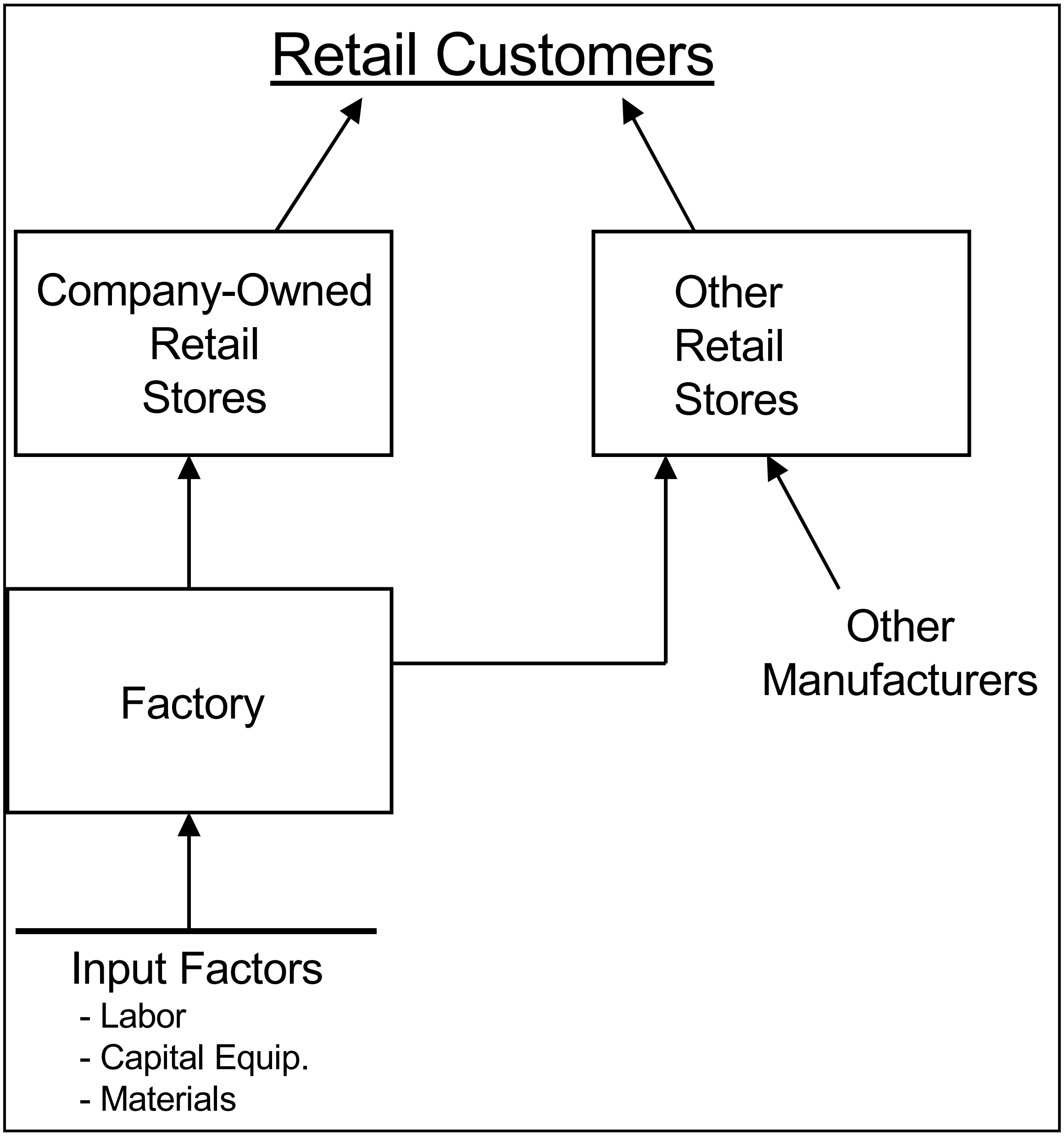

Figure 2. Vertically integrated manufacturing company with company-owned retail stores and non-affiliated retail distribution channels.

Q. Why is it necessary to distinguish between and to separately analyze these two components of Qwest's operations?

A. Qwest confronts significantly different levels of competition in these two vertically integrated components. Defining market share solely with respect to *access lines provided at retail* overstates the actual competitor market share (relative to Qwest's entire integrated operations) and correspondingly understates Qwest's share of the total market. While Qwest may no longer provide service *at retail* in connection with facilities provided to CLECs, the Company nevertheless continues to provide these services on a wholesale basis, and receives wholesale revenues from the competitors that lease these access lines and UNEs (just like the manufacturer with respect to products that are sold through nonaffiliated retailers). The only "loss" to Qwest in these situations is the retail margin — the difference between the price at which Qwest sells these services at retail and the price it sells the corresponding service on a wholesale or UNE basis. And if the prices of Qwest's wholesale service have been properly set, the "loss" to Qwest of this retail margin should be roughly matched by the elimination of retailing costs that are avoided when a CLEC, rather than Qwest, provides the service at retail, thus making Qwest essentially *indifferent* as to whether it or a competing retail provider actually furnished Qwest's services to the ultimate end user consumer.[23]

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23. With respect to bundled Qwest services provided on a wholesale basis for resale, Section 252(d)(3) of the *Telecommunications Act of 1996* requires that the "wholesale discount" be set "on the basis of retail rates charged to subscribers for the telecommunications service requested, excluding the portion thereof attributable to any marketing, billing, collection, and other costs that will be avoided by the local exchange carrier."

Q. Can you provide an illustration of this point?

A. Yes. This can be readily demonstrated by means of a simple numerical example. Suppose that the total market consists of one million access lines of which 100,000, or 10%, are provided by CLECs using Qwest wholesale and UNE services. (For purposes of this example, we will ignore facilities-based carrier shares of the underlying services/facilities segment.) If one compares only Qwest's retail line count to the total access line count for the market, the Company would have a 90% share of the market. However, if on average the retail margin (the wholesale "discount" or the difference between the UNE-P price and the retail price) is, e.g., 15%, then fully 85% of total CLEC *revenues* would still be paid over to Qwest. Qwest's actual market share (with respect to revenues) under these circumstances would be calculated as follows:

Revenue share = Qwest retail share x 100% + CLEC retail share x (1–wholesale discount)

Qwest Revenue share = 0.90 x 100% + 0.10 x (1–15%) = 98.5%

Thus, the effective CLEC market share (relative to the totality of Qwest's integrated operations) would be only 1.5%, not the 10% as calculated solely with respect to the *retail* component.

Q. You indicated that for purposes of illustration, you assumed that Qwest provides the underlying wholesale facilities for 100% of the market. Does the formula need to be modified to calculate an effective market share for Qwest when some business end use customers are served by a facilities-based competitor that does not rely on an unbundled loop or other Qwest wholesale elements?

A. No, the same formula still applies in that situation. All that needs to be done in that case is to revise the Qwest and CLEC retail share percentages to recognize that their denominator, i.e., the total retail lines in the market, is larger by the amount of lines served by the facilities-based competitor(s). Thus, if we assume that an additional 100,000 lines are served by a facilities-based provider not affiliated with Qwest (with no use of Qwest facilities), Qwest's retail share would be reduced from 90% to 81.8%, and the market share of the CLECs using Qwest wholesale and UNE services similarly falls from 10% to 9.1%. Inputting these revised percentages into the formula above yields an effective market share for Qwest of 89.5%.

Q. Have you been able to calculate an estimate of Qwest's effective market share for the business basic exchange service market in the Company's nineteen listed wire centers?

A. No, because the data provided by Mr. Teitzel fails to distinguish between or to separate CLEC shares for mass market small business customers vs. competitor shares of the larger business and enterprise markets. That said, I have nevertheless attempted to estimate Qwest's effective market shares for the undifferentiated business market as a whole, although there are some data limitations that have prevented me from calculating a precise market share value. Mr. Teitzel has presented wire center level counts of the Company's business access lines (see Exhibit DLT-7), and has also furnished counts for the business access lines that are served by CLECs using Qwest-provided UNE-P and resold lines (see Exhibit DLT-1). He has not presented any line counts for facilities-based local service providers,[24] presumably because the Company has no direct knowledge of facilities-based CLECs' customer base the way that Qwest does for end users served using Qwest wholesale facilities. Nevertheless, Mr. Teitzel's Exhibit DLT-7 provides counts of access lines that Qwest claims have been "lost to competition," which can be used to estimate facilities-based business lines. Mr. Teitzel relies upon queries that Qwest apparently makes to its retail customers who are disconnecting their service to determine whether they are switching to another local service provider.[25] I would note that this method likely overstates facilities-based CLEC shares, in that it necessarily ignores customer disconnection and churn occurring after the migration to the CLEC.

The total number of business access lines that Qwest claims to have "lost" in the nineteen exchanges as of March 30, 2003 (as provided in Teitzel Exhibit DLT-7) is 4,548. Subtracting the 2,209 lines that Qwest has identified as Resale/UNE-P

24. Teitzel (Qwest), at page 13, lines 18-19.

25. Teitzel (Qwest) at page 18.

business lines in those nineteen exchanges as of March 30, 2003[26] produces a count of 2,339 facilities-based access lines. Substituting the latter value into our market share formula produces an effective market share for Qwest of 92.7% for the nineteen exchanges in aggregate. See Table 2 below.[27]

Table 2

Qwest's Effective Business Market Share in the 44 Exchanges
Remains Extremely High

Business Exchange Service	**Access Lines**	**Percentage**
Qwest business lines (Teitzel Exh. DLT-9)	30,946	87.2%
CLEC Resold/UNE-P lines (Teitzel Exh. DLT-1)	2,209	6.2%
Subtotal -- Qwest-provided wholesale lines	33,155	93.4%
CLEC Facilities-based lines (FCC -- 2002 Utah total)	2,339	6.6%
Total retail lines in market	35,494	100.0%
Retail discount (Dkt 99-049-20 Order)	12.2%	
Qwest Effective Market Share		92.7%

Q. Are there additional measures of market concentration that the Commission can use to assess Qwest's dominance in the provision of local exchange services?

A. Yes, there are. The US Department of Justice and the Federal Trade Commission follow Horizontal Merger Guidelines when examining the impact of mergers on the

26. Teitzel (Qwest), Exhibit DLT-1.

27. I have conservatively used the 12.2% resale discount that applies to individual business lines, rather than a weighted average of that discount and the 22.4% discount applying to resold PBX trunks.

competitiveness of particular markets.[28] The general goal of the guidelines is to ensure that proposed mergers do not "create or enhance market power or enhance its exercise."[29] As such, the guidelines establish the use of the Herfindahl-Hirschman Index ("HHI") as a measurement of market concentration, and thus the ability of the dominant firm to exercise market power.[30] The results of the calculation show the expected market concentration post-merger and are categorized as unconcentrated (HHI below 1,000), moderately concentrated (HHI between 1,000 and 1,800), and highly concentrated (HHI above 1,800).[31] While we are not addressing market share with respect to a merger in this instant proceeding, the HHI measurement is nonetheless an appropriate evaluation of market concentration.

Q. If the HHI was calculated with respect to the local exchange market in Utah, what would the results show?

A. Using the business market share value that I determined for Qwest, 92.7%, the resulting HHI value is 8,584.[32] As I stated above, the Horizontal Merger Guidelines

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28. 1992 Horizontal Merger Guidelines (revising the 1984 Merger Guidelines), 57 Fed. Reg. 41552.

29. *Id.*, at "0.1 Purpose and Underlying Policy Assumptions of the Guidelines."

30. *Id.*, at "1.5 Concentration and Market Shares." The HHI is calculated by summing the squares of the market shares of participants in the market.

31. *Id.*, at "1.51 General Standards."

32. Because Qwest possesses such a large share of the market, calculating the HHI (continued...)

regard an HHI above 1,800 as evidence of a highly concentrated market; thus, under my market share estimates, or for that matter any other estimate in the same general range, the HHI for the Utah local exchange service market is so far in excess of the 1,800 threshold for "highly concentrated" that by any objective standard it could not be considered to be a market in which effective price-constraining competition would be likely to emerge.

Q. How do these results compare to prior determinations by the Commission concerning Qwest's dominance in the business exchange market in Utah?

A. In its year 2002 report to the Governor and Legislature, the Commission presented HHI values for Qwest's entire service territory in Utah (including exchanges beyond the nineteen exchanges listed in its Petition). The Commission reported an HHI value for the business market of 4720 for the year 2002.[33] The Commission also opined that:

32. (...continued)
with Qwest's share alone results in a conclusion of "high concentration." It is thus unnecessary to know the individual market shares of any other smaller competitors, as adding them to the calculation only raises the HHI. Qwest's market share would have to fall to around 40% before the inclusion of other competitor's market share would have any impact upon the conclusion drawn from the HHI calculation.

33. *The Status of Telecommunications Competition in Utah,* Fifth Annual Report to the Governor, Legislature, the Public Utilities and Technology Interim Committee, and Information Technology Commission, November 2002 ("Fifth Annual Report"), at page 16. While the Commission's report expresses HHI values as decimals (e.g., 0.853), for consistency I have converted them into the scale used in the 1992 Merger Guidelines (e.g., 8530). Of course, the nineteen exchanges represent a fraction of Qwest's total service territory, so that one cannot directly compare the total market HHI value reported by the Commission (continued...)

> An index value of .50 is the necessary threshold value for the market to begin to be considered somewhat competitive.[34]

If that guideline (which can be expressed as an HHI value of 5000) is applied to the HHI values that I have calculated, it is clear that the business exchange market (in the nineteen exchanges) fails to qualify as even "somewhat competitive," let alone sufficiently competitive to constrain Qwest's business service price levels absent continued regulatory protections.

Q. How does Qwest's business market share compare to the market share that AT&T held when the FCC determined that there was sufficient competition to eliminate regulatory oversight of its price levels?

A. After the break-up of the former Bell system in 1984, AT&T remained the default toll carrier for the vast majority of customers despite the fact that the market was open to competition. Accordingly, AT&T was not allowed significant pricing discretion for its domestic interstate toll services until 1995, when the FCC granted AT&T's bid for "non-dominant carrier" status.[35] The FCC based that decision, in part, upon AT&T's market

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33. (...continued)
to the value I have calculated for the nineteen exchanges only.

34. *Id.*, at page 15.

35. In the Matter of Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier, *Order*, FCC 95-427, 11 FCC Rcd 3271 (1995).

share, which had fallen to the 60% level.[36] The FCC specifically concluded that "[f]rom 1984 to 1994, AT&T's market share, in terms of both revenues and minutes, fell from approximately 90 percent to 55.2 and 58.6 percent in terms of revenues and minutes, respectively."[37] Clearly, while there has been some competitive erosion of Qwest's business market share in the nineteen exchanges, it has not fallen to anywhere close to those levels in aggregate.

Q. When the FCC evaluated AT&T's market power and determined that AT&T was no longer dominant in the interstate toll market, did it also consider supply and demand elasticities?

A. Yes, it did. The FCC observed that "[i]t is well-established that supply and demand elasticities are properly considered in assessing whether a firm has market power in the relevant product and geographic markets."[38] The FCC concluded that AT&T faced supply that was "sufficiently elastic to constrain AT&T's unilateral pricing decisions," and also that (relative to interstate toll service) "residential customers are highly demand-elastic and will switch to or from AT&T in order to obtain price reductions and desired features."[39] To the extent that Qwest confronts less elastic conditions for its

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36. *Id.*, at para. 68.

37. *Id.*, at para. 67.

38. *Id.*, at para. 57 (footnote omitted).

39. *Id.*, at paras. 58 and 63 (footnote omitted).

business exchange services in Utah, even if Qwest's market share (e.g., in a particular wire center) were to fall to AT&T's 1994 toll market share levels, that fact alone would be insufficient to support a conclusion that Qwest no longer possessed significant market power.

Q. So far, your analysis has focused upon the business service market as a whole. Do your conclusions change if Qwest's market share and market concentration (HHI) are analyzed on a wire center-by-wire center basis?

A. No, they do not. A precise calculation of HHI values for each of the nineteen exchanges at issue would require business market share data for *each* of the CLECs offering service in those exchanges. I understand that the Division has been making discovery efforts to obtain the access line data from the CLECs that would be needed to derive those market shares. Even without that data, however, it is possible to derive conservative, lower-bounds estimates of HHIs by wire center based solely upon Qwest's market share in each exchange. Because the HHI is calculated as the sum of the squares of the market share of all firms in a given market, taking into account the individual CLECs' market shares would only increase the HHI from the value calculated by considering Qwest alone.

Table 3 below provides estimates of Qwest's business market share in each of the business exchanges, based upon the methodology described above and assuming that the "Lines Loss [sic] to Competition" data supplied in Mr. Teitzel's updated Exhibit DLT-

9 can be taken at face value as representative of CLEC activity in each exchange. For purposes of comparison, I have sorted the exchanges by the resulting Qwest market share values, from highest to lowest. As Table 3 demonstrates, based upon the Company's claimed line loss data, Qwest continues to hold an effective market share of 90% or above in fourteen of the nineteen business exchanges, and none fall below 88%.[40] And for *every one* of the business exchanges, the HHI value (conservatively estimated by calculating HHI relative to Qwest's market share only) is far in excess of the 1,800 threshold for a finding under the Horizontal Merger Guidelines of a "highly concentrated" market.

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40. Note that I did not calculate separate market shares or HHI values for the North Salt Lake and Roy exchanges, because Qwest folds its retail access line counts for those exchanges into the Bountiful and Clearfield exchanges, respectively. See Notes A and B to Teitzel Exhibit DLT-7.

Table 3

Qwest Holds a Dominant Market Share in Each of the 19 Exchanges for Which Qwest Provided Data

Exchange	Qwest Business Market Share	HHI Value		Exchange	Qwest Business Market Share	HHI Value
Washington[1]				Santaquin		
Morgan				Nephi		
Richfield				Ogden North		
Salem				St. George		
Cedar City				Ogden South		
Grantsville				Heber City		
Hyrum				West Jordan		
Payson				N. Salt Lake2		-
Huntsville				Roy2		-
Hurricane						

Sources: Teitzel Exhibits DLT-1 and DLT-7.

Notes:

2. N. Salt Lake is included in the Bountiful exchange; Roy is included in the Clearfield exchange. Qwest did not provide counts for Bountiful or Clearfield.

Contains Allegedly Proprietary Qwest Data

Q. How do the HHI values for the business exchanges compare to the threshold level of 5,000 (i.e., an index value of 0.50) that the Commission viewed as the minimum for a market "to begin to be considered somewhat competitive" in its Fifth Annual Report?

A. Even under my conservative HHI estimates, all of the nineteen business exchanges for which data was available (i.e., excluding North Salt Lake and Roy) show business market concentration levels that greatly exceed 5,000, and thus would fail to qualify as even beginning to be "somewhat competitive" using that threshold, let alone to be considered to manifest effective price-constraining competition.

Given these results, I conclude that Qwest continues to have a dominant share of the business exchange services market in each of the business exchanges at issue,[41] which strongly supports a finding by the Commission that a price cap should be applied to constrain Qwest from potentially abusing its market power.

Q. You have characterized these exchange-level HHI calculations as "conservative" because you did not include values for CLEC shares. How would the inclusion of CLEC shares affect the calculated HHI values?

A. The HHI is an index of market concentration, and is generally calculated using the respective shares of the four largest firms. Because individual share values are squared, firms with small shares would have little effect upon the HHI. To see how this might work, we can use the Qwest exchange with the lowest Qwest share BEGIN PROPRIETARY<< >> END PROPRIETARY, and recalculate

41. Given Qwest's control of the data for North Salt Lake and Roy, as well as the consistent results for the other seventeen exchanges, those two exchanges should be presumed to have the same competitive conditions unless Qwest can demonstrate otherwise.

the HHI on the assumption that the non-Qwest share is made up of one large CLEC (e.g., the local cable operator) and two small fringe providers that resell Qwest service. Assuming shares of BEGIN PROPRIETARY<< >> END PROPRIETARY respectively for the three largest CLECs, the HHI for this exchange would be BEGIN PROPRIETARY<< >>END PROPRIETARY. In the event that exchange-level CLEC shares become available, I will revise Table 3 to reflect these more complete HHI calculations.

There are no indications that the demand elasticity for business exchange services in Utah is sufficiently high to prevent Qwest from exercising its market power.

Q. How does demand elasticity provide an indication of Qwest's market power?

A. Demand elasticity is simply a customer's willingness and/or ability to modify the quantity of a good or service the customer purchases from a given firm in response to a change in that firm's price. More formally, price elasticity of demand is defined as the percentage change in quantity demanded as a result of a 1% change in the price of a good.[42] If the good or service has close substitutes (such as similar products that are offered by competing firms) or is viewed as a luxury or discretionary purchase by the consumer, demand confronting the firm will tend to be relatively price-elastic. Thus, in a competitive market where rival firms offer similar, and

42. *See*, for example, Edwin Mansfield, *Microeconomics: Theory & Applications*, New York: W.W. Norton & Company, Inc., 1970.

hence substitutable, products, an attempt by any one firm to increase its price (that is not immediately mirrored by other firms) will incent customers to switch to an alternative supplier, and the price-raising firm will lose business. On the other hand, if there are no close substitutes *and* the good or service is viewed by the customer as *essential* (such as a core telephone or other public utility service), customers will continue to purchase roughly the same quantity of the product despite the increased price, forgoing or reducing consumption of some other, more discretionary product or service. It is for this reason that an examination of the price elasticity of demand for business exchange services confronting Qwest can provide further evidence concerning the extent to which Utah consumers have actual competitive choices in the marketplace.

Q. Why is price elasticity of demand important?

A. If, for example, price elasticity of demand is at or greater (in absolute value) than 1.0,[43] then a firm cannot expect to gain revenues by increasing price above marginal cost, because customers would seek out alternative services from competing firms. However, if price elasticity of demand is less (in absolute value) than 1.0, a firm can expect to gain revenues by increasing its price for a good or service.

43. A price elasticity of –1.0 implies that a 1% rise in price will result in a 1% decrease in demand, such that total revenues are unchanged. Economists generally refer to price elasticity in absolute value terms. Mathematically, price elasticity of demand is negative for normal goods (i.e when price rises, demand falls).

Q. You have been referring to price elasticity of demand with respect to an individual firm. Can price elasticity of demand also be measured with respect to the overall market for a particular good or service?

A. Yes, it can. We generally think of "market elasticity" as referring to a customer's willingness to change the quantity demanded in response to a change in the overall market price level for the product, i.e., where all firms in the market modify their prices equally and simultaneously. If only one firm in a competitive market changes its price, customers are able to shift their demand toward that firm (if it lowers its price) or away from that firm (if it raises its price). If there is only one firm in a market (i.e., a monopoly), then the market and firm demand elasticities will be the same. For markets with more than one firm, the price elasticity of demand confronting any one firm will always be greater or equal to the price elasticity of demand for the market as a whole.

In this case, the Commission should also be concerned with cross-price elasticity, one of the elements that determines firm elasticity of demand. Firm elasticity of demand is essentially the percentage change in the firm's sales that will result from a one percent change in the price the firm charges. The firm elasticity of demand is made up of individual consumers' elasticities of demand, cross-price elasticity of demand, and elasticity of supply. Thus, Qwest's firm elasticity of demand is dependent upon both how consumers and competitors react to price changes. The question then becomes, when the price of good X (or a service from the incumbent company) rises, is there a reduction of demand for good X and a corresponding increase in demand for good Y (or a service from the competitor)? In other words, do customers buy more competitive services when confronted with a price increase for incumbent services?

Q. Has Qwest addressed its firm elasticity of demand for local exchange services in its Petition or supporting testimony?

A. No. Neither the Petition nor Mr. Teitzel's prefiled testimony provides any estimates of price elasticity of demand in the business marketplace, for Qwest or for the market as a whole. Thus Qwest has not demonstrated, nor even attempted to demonstrate, that there exists any price sensitivity to its own services.

Q. Are you aware of any recent estimates of price elasticity of demand for basic exchange services that would suggest that they are price inelastic?

A. Yes. Dr. William Taylor of National Economic Research Associates, Inc. ("NERA"), who frequently serves as a consultant to Qwest, considered a price elasticity demand value of –0.1 for basic exchange services (residential and business) as reasonable in testimony he offered on behalf of Verizon North before the Pennsylvania Public Utility Commission.[44] Clearly, any elasticity value in that order of magnitude supports a conclusion that those services are highly price inelastic.

Supply elasticity for competitive firms is highly inelastic, due to the financial difficulties faced by CLECs and the economic non-viability of Qwest's resale and UNE-P offerings as a means of CLEC service provisioning.

Q. What do economists mean by "supply elasticity"?

A. Supply elasticity generally refers to the extent to which firms are able to expand or contract their output in response to market price and other market conditions. Generally, if firms are able to rapidly adjust their supply — and particularly to increase it — in response to a price change, this will tend to limit any one firm's ability to maintain supracompetitive prices. In other words, if Qwest's competitors are able to rapidly expand their supply in response to a Qwest price increase, then Qwest's ability to sustain a significant price increase would be limited. On the other hand, if competitors are not able to expand their supply when Qwest raises its price, Qwest will be able to implement and maintain excessive price increases over an extended period of time.

44. Pennsylvania PUC Docket No. P-00001854, Prepared Rebuttal Testimony of William E. Taylor on behalf of Verizon North, Inc., Verizon North Statement No. 4.1, February 20, 2001, at 24.

Q. What evidence has Qwest provided that would suggest that competitor supply elasticities are sufficiently high that Qwest would not be able to sustain a significant increase in its business service prices?

A. Basically, Qwest has offered virtually no evidence in this regard, other than the implication that the growth that it claims competitors are experiencing is indicative of their ability to expand output.

Q. Are CLECs characterized by a level of supply elasticity sufficient to act as a competitive constraint on Qwest's market power?

A. No, and in fact the available evidence would affirmatively support a finding that CLEC supply is highly *inelastic*.

Q. On what do you base that conclusion?

A. First, CLECs have been experiencing substantial difficulties raising capital to finance and sustain any major expansion of their facilities. The plummet of the stock prices and market capitalization of nearly all CLECs since late 1999, coupled with the fact that many have either gone out of business or are operating under bankruptcy protection, provides a stark contrast to Mr. Teitzel's characterization that there is "robust competition" for business telephone services in Utah.[45]

Table 4 below presents a comparison of CLEC market capitalizations[46] before the CLEC stock collapse and as they stand today (using September 18, 2003). As illustrated in Table 4, many CLECs have experienced a precipitous drop in stock price and market capitalization over the past four years, and they remain depressed relative to their prior levels. Moreover, numerous CLECs were forced to file for Chapter 11 bankruptcy and are either no longer operating or have been delisted from NASDAQ. For those that have survived, the dramatic decreases in CLEC share prices indicate that (1) investors have less confidence in these companies' ability to succeed with business plans premised upon competing with ILECs; and (2) the companies themselves now will have much more difficulty attracting capital with which to pursue their business plans. Telecommunications is a high fixed-cost industry, and a lack of capital with which to pursue market entry and expansion will adversely impact many carriers' ability to stay in business, let alone expand their capacity. In terms of supply elasticity, the bottom line is that even if CLECs were inclined to significantly expand their networks in Utah, they would likely be unable to attract sufficient capital to do so under current conditions in the capital markets.

45. Teitzel (Qwest), at page 20, lines 4-5.

46. My estimates of market capitalization are based on the indicated date's closing stock price times the number of outstanding common shares. Other methods (e.g., including preferred shares) might result in somewhat different values for certain companies, but are unlikely to affect the general trends shown in Table 4.

Table 4

Changes In CLEC Market Capitalization

	September 30, 1999				September 18, 2003			
		In Millions				In Millions		
Company	Stock Price	Shares out-standing	Market Cap		Stock Price	Shares out-standing	Market Cap	%change from 9/30/99 to 9/18/03[1]
Adelphia	$ 28.00	51.42	$ 1,439.67		–	–	–	–
Allegiance	$ 63.00	64.86	$ 4,086.48		$ 0.09	124.74	$ 11.23	-99.73%
AT&T Corp	$ 47.44	3,195.63	$ 151,592.86		$ 13.04	3851.98	$ 50,229.82	-66.87%
Commonwealth Tele	$ 44.00	22.11	$ 972.77		$ 41.47	23.93	$ 992.38	2.02%
CoreCom	$ 37.19	72.05	$ 2,679.43		–	–	–	–
CTC Communications	$ 16.44	14.55	$ 239.24		–	–	–	–
CTCI	$ 47.00	19.93	$ 936.49		$ 14.29	18.76	$ 268.08	-71.37%
Intermedia	$ 25.00	50.99	$ 1,274.64		–	–	–	–
Focal	$ 23.94	60.65	$ 1,451.72		$ 0.50	4.94	$ 2.47	-99.83%
Global Crossing	$ 26.50	794.77	$ 21,061.42		–	–	–	–
GST Telecomm Inc	$ 7.03	37.71	$ 265.18		–	–	–	–
McLeodUSA[2]	$ 41.06	155.30	$ 6,376.62		1.49	166.02	$ 247.37	-96.12%
Northpoint	$ 24.31	125.24	$ 3,044.88		–	–	–	–
ICG Communications	$ 15.56	47.34	$ 736.77		–	–	–	–
Level 3 Communications	$ 52.22	341.08	$ 17,810.58		$ 4.96	655.00	$ 3,248.80	-81.76%
Worldcom	$ 76.88	1,880.22	$ 144,541.84		–	–	–	–
RCN	$ 49.69	76.18	$ 3,785.42		$ 2.57	111.17	$ 285.71	-92.45%
Sprint	$ 54.25	785.21	$ 42,597.39		$ 15.58	903.17	$ 14,071.39	-66.97%
Time Warner Telecom	$ 20.88	104.54	$ 2,182.75		$ 9.05	114.93	$ 1,040.12	-52.35%
Winstar Comm Inc	$ 39.06	54.93	$ 2,145.89		–	–	–	–
XO Comm/Nextel	$ 61.38	315.45	$ 19,360.84		–	–	–	–

Source: carrier 10Q reports, www.thedigest.com/stocks/, finance.yahoo.com

Notes: – Indicates that the company has filed chapter 11, or has been delisted from the Nasdaq.

1: All data is current through September 18, 2003 except AT&T which is drawn from October 31, 2002 data (pre-Comcast divestiture) and Connectiv and Focal, which are drawn from September 24, 2002 data (before the they were acquired by other companies).

2: Stock price for 1999 is as of March 22, 1999

Q. What other factors lead you to conclude that CLEC supply in the Utah business markets is highly inelastic?

A. In other areas of the country, competitive provision of mass market business services (as opposed to business customers served by DS1-level trunks) has been occurring predominantly through resale of the ILEC services and via leasing of the UNE-Platform ("UNE-P") combination of unbundled network elements ("UNEs").[47] Taken at face value, the "competitive line loss" data reported by Mr. Teitzel indicates that within the nineteen listed exchanges, about half of the "lost" business lines are being served via resale or UNE-P.[48] In Utah, the margins afforded by Qwest's resale discount for business individual lines (12.2%) are relatively low, and its UNE rate levels are economically unattractive. Moreover, Qwest's UNE rates are currently under review in Docket 01-049-85, and the Division has proposed significant rate increases for UNE loops in Zones 2 (from $13.83 to $15.46) and 3 (from $19.11 to $35.37).[49] Finally, despite the Commission's stated opposition to the regional Bell companies' attempts to eliminate UNE-P as a competitive entry

47. UNE-P consists of a combination of an unbundled loop, port, local switching, and shared transport facilities, priced using the "Total Element Long Run Incremental Cost" ("TELRIC") methodology prescribed by the FCC. Nationwide, use of resale has leveled off since 2000, whereas use of UNE-P has expanded.

48. That is, business UNE-P/resold lines (2209) / total lines lost (4548) = 49%. See page 34 of my testimony and Teitzel Exhibit DLT-1 (updated), column "Total UNE-P & Resale Lines" versus column "Lines Lost to Competition."

49. *Id.*

vehicle,[50] the UNE-P option soon could be curtailed or even eliminated outright, given that the FCC's August 21, 2003 *Triennial Review Order* requires the Commission to complete an investigation within the next nine months as to whether CLECs are "impaired" without access to local switching (a necessary component of UNE-P).[51]

These circumstances significantly limit CLECs' ability to increase their output quickly using Qwest-provided wholesale services. Their only other recourse, self-provisioning, is not only limited by the capital funding difficulties I described earlier in my testimony, but also is generally far slower to undertake. Thus, were Qwest to attempt to exercise market power by unilaterally raising its business service prices, even if the necessary investment capital were available, it could take many months, or even years, before CLECs would be able to expand their capacity by constructing new facilities. In other words, CLECs' supply elasticity is significantly lower than it would be if CLECs had economically viable access to Qwest's wholesale facilities to serve business customers.

Q. Given the CLEC supply constraints that you have identified and Qwest's dominance of the local exchange market, what conclusions do you draw concerning the ability of market forces to constrain Qwest's prices?

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50. Fifth Annual Report, at page 23.

51. Triennial Review Order, at para. 527.

A. In a market where effective, price-constraining competition has emerged, if Qwest charged prices above marginal cost, then competitors would enter the market and/or expand their supply and undercut Qwest's prices, resulting in customer migration away from Qwest toward the competitors. However, that condition requires that there be competitors in the market with the capacity and capability to *independently* serve the demand that would be shifted away from Qwest, i.e., competitors with relatively elastic supply/production characteristics *and* a sufficient number of such competitors that they will not simply mirror the price movements of the dominant firm. In markets characterized by one firm with overwhelming dominance and a number of small "fringe" competitors, the dominant firm tends to act as "price setter" while the fringe competitors act as "price takers," adjusting their prices in lock-step with those set by the incumbent. It is only where the relative sizes of the various firms in a market are approximately equal that no one firm can act as price-setter. The evidence that I have presented above demonstrates Qwest's dominance in the business exchange market and its rivals' status as fringe competitors. Taking the Qwest market share value that I calculated earlier and spreading the non-Qwest share across the five different CLECs that Mr. Teitzel identifies as participants in the Utah business exchange market,[52] what we see is a market with one firm having a 92.7% share and five firms collectively dividing up the remaining 7.3%, i.e., an average of about 1.5% each. Under these extremely lopsided conditions, competing fringe firms cannot realistically be expected to offer any serious pricing

52. Teitzel (Qwest), at page 8.

challenge or pressure on Qwest if the dominant firm, granted unconstrained upward pricing flexibility, were to impose supracompetitive prices.

Resold Qwest services do not constrain Qwest's retail business exchange service price levels.

Q. Dr. Selwyn, does CLEC provision of business services based on reselling Qwest's service constrain Qwest's pricing of its retail business exchange services?

A. No. Mr. Teitzel does not address resold services as a distinct category, but his inclusion of resold lines as part of the CLEC line counts presented in Exhibit DLT-1 implies that he views resold service as another form of "competition" with Qwest's retail services. In contrast, when we recall the hypothetical manufacturing firm depicted in Figure 2 presented earlier in my testimony, such a firm, which distributes a portion of its output through nonaffiliated retail channels, would hardly consider sales of its products by those channels to constitute "competitive losses." Whether or not Qwest's resold services are viewed as an alternative marketing channel for its underlying wholesale service, the direct linkage between Qwest's retail rate and the resold services discount means that resold services cannot exert any more pressure on Qwest's prices than they already have. That is, if Qwest increases its retail rate for individual business flat-rate lines (1FB service) by $2, resellers will experience a $1.76 increase in the price they pay (i.e., the $2 increase in the retail price less a 12.2% discount), forcing the reseller to increase its price in lock-step with Qwest's. Consequently, Qwest can increase its price with little concern about a serious competitive response. Clearly, resold services do not serve as an effective constraint on Qwest's ability to exercise market power.

RECOMMENDATION

In view of the lack of effective, price-constraining competition for Qwest's business exchange services, for any service granted pricing flexibility, the Commission should apply a maximum price cap equal to the corresponding tariffed rate in effect under the price cap regulation rule, R746-352.

Q. What was the Commission's prior finding concerning adoption of a maximum price level or "price cap" to flexibly-priced business exchange services?

A. When the Commission previously considered adopting a maximum price "cap" for certain Qwest business services in Docket 01-049-82, it determined that a cap was in the public interest if there was only one competitor in the market, or if there were multiple competitors but they were only resellers of Qwest's services.[53] At that time, the Commission concluded (based on discussions at the hearing) that the Tooele exchange had only one competitor.[54] On that basis, the Commission adopted a price cap for each flexibly-priced service offered in the Tooele exchange, and set the price cap at the tariffed rate in effect at the time of the Commission order.[55] In a

53. Docket Nos. 02-049-82 and 01-2383-01, *Report and Order*, January 28, 2003, at page 4.

54. *Id.*, at page 4.

55. *Id.*, at Ordering Paragraph 2.

subsequent order, the Commission determined that three CLECs offered business services in the Tooele exchange, and removed those price caps.[56]

Q. Given the market conditions and pricing behavior that you have described in your testimony, should the Commission simply apply the same price cap approach used in Docket 02-049-82 to any services granted pricing flexibility in this proceeding?

A. No, that would not be sufficient. As I have demonstrated in my testimony, despite the presence of *some* competition in the business service market (considered as a whole, in light of the undifferentiated data Qwest has presented), Qwest's business exchange services are not subject to effective, price-constraining competition at this time. As a result, Qwest remains the dominant supplier and price-setter in the market, and would have the opportunity and ability to exercise its market power and reap supracompetitive profits absent an appropriate regulatory protection. That condition, and not the issue of whether there is more than one competitor or multiple resellers operating in an exchange, needs to be the focus of the Commission's determination as to the necessity for a price cap. In light of the evidence that I have presented that this market condition exists for the listed nineteen exchanges in

56. Docket 02-049-82, *Order Granting Reconsideration and Order on Reconsideration*, March 5, 2003, at page 1.

aggregate, as well as individually, it is essential that a price cap apply to any Qwest service granted pricing flexibility as a result of the Company's Petition.

Moreover, simply setting the price cap at the current tariffed rate (i.e., at the time the order is issued) is clearly not sufficient. As I have shown, Qwest has used its existing pricing flexibility under such a cap only to escape from the operation of the price cap regulation rule, R746-352, resulting in the perverse and unintended situation that consumers in purportedly "competitive" exchanges pay more for their Qwest services than do consumers in the presumably non-competitive exchanges subject to price cap regulation.

In order to prevent this from recurring in any of the Qwest exchanges that the Commission determines to qualify for pricing flexibility, the price cap should be set equal to the corresponding tariffed rate in effect under the price cap regulation rule, as periodically adjusted due to the Commission-approved annual price cap filings. Setting caps in this manner is not unfair to Qwest (as the Company may claim), because Qwest itself, and not the Commission, chooses which services' prices are adjusted under the price cap rule. It will, however, ensure that business consumers in any flexibly-priced exchanges will not be "left behind" and miss out on annual price reductions that might be occurring due to operation of the price cap regulation rule, as I have shown has been occurring for business customers under Qwest's exercise of its existing pricing flexibility.

Q. Does this conclude your direct testimony at this time?

A. Yes, it does.

Attachment 1

Statement of Qualifications

Statement of Qualifications

LEE L. SELWYN

Dr. Lee L. Selwyn has been actively involved in the telecommunications field for more than twenty-five years, and is an internationally recognized authority on telecommunications regulation, economics and public policy. Dr. Selwyn founded the firm of Economics and Technology, Inc. in 1972, and has served as its President since that date. He received his Ph.D. degree from the Alfred P. Sloan School of Management at the Massachusetts Institute of Technology. He also holds a Master of Science degree in Industrial Management from MIT and a Bachelor of Arts degree with honors in Economics from Queens College of the City University of New York.

Dr. Selwyn has testified as an expert on rate design, service cost analysis, form of regulation, and other telecommunications policy issues in telecommunications regulatory proceedings before some forty state commissions, the Federal Communications Commission and the Canadian Radio-television and Telecommunications Commission, among others. He has appeared as a witness on behalf of commercial organizations, non-profit institutions, as well as local, state and federal government authorities responsible for telecommunications regulation and consumer advocacy.

He has served or is now serving as a consultant to numerous state utilities commissions including those in Arizona, Minnesota, Kansas, Kentucky, the District of Columbia, Connecticut, California, Delaware, Maine, Massachusetts, New Hampshire, Vermont, New Mexico, Wisconsin and Washington State, the Office of Telecommunications Policy (Executive Office of the President), the National Telecommunications and Information Administration, the Federal Communications Commission, the Canadian Radio-television and Telecommunications Commission, the United Kingdom Office of Telecommunications, and the Secretaria de Comunicaciones y Transportes of the Republic of Mexico. He has also served as an advisor on telecommunications regulatory matters to the International Communications Association and the Ad Hoc Telecommunications Users Committee, as well as to a number of major corporate telecommunications users, information services providers, paging and cellular carriers, and specialized access services carriers.

Dr. Selwyn has presented testimony as an invited witness before the U.S. House of Representatives Subcommittee on Telecommunications, Consumer Protection and Finance and before the U.S. Senate Judiciary Committee, on subjects dealing with restructuring and deregulation of portions of the telecommunications industry.

In 1970, he was awarded a Post-Doctoral Research Grant in Public Utility Economics under a program sponsored by the American Telephone and Telegraph Company, to conduct research on the economic effects of telephone rate structures upon the computer time sharing industry. This work was conducted at Harvard University's Program on Technology and Society, where he was appointed as a Research Associate. Dr. Selwyn was also a member of the faculty at the College of Business Administration at Boston University from 1968 until 1973, where he taught courses in economics, finance and management information systems.

Dr. Selwyn has published numerous papers and articles in professional and trade journals on the subject of telecommunications service regulation, cost methodology, rate design and pricing policy. These have included:

"Taxes, Corporate Financial Policy and Return to Investors"
National Tax Journal, Vol. XX, No.4, December 1967.

"Pricing Telephone Terminal Equipment Under Competition"
Public Utilities Fortnightly, December 8, 1977.

"Deregulation, Competition, and Regulatory Responsibility in the Telecommunications Industry"
Presented at the 1979 Rate Symposium on Problems of Regulated Industries - Sponsored by: The American University, Foster Associates, Inc., Missouri Public Service Commission, University of Missouri-Columbia, Kansas City, MO, February 11 - 14, 1979.

"Sifting Out the Economic Costs of Terminal Equipment Services"
Telephone Engineer and Management, October 15, 1979.

"Usage-Sensitive Pricing" (with G. F. Borton)
(a three part series)
Telephony, January 7, 28, February 11, 1980.

"Perspectives on Usage-Sensitive Pricing"
Public Utilities Fortnightly, May 7, 1981.

"Diversification, Deregulation, and Increased Uncertainty in the Public Utility Industries"
Comments Presented at the Thirteenth Annual Conference of the Institute of Public Utilities, Williamsburg, VA - December 14 - 16, 1981.

"Local Telephone Pricing: Is There a Better Way?; The Costs of LMS Exceed its Benefits: a Report on Recent U.S. Experience."

Proceedings of a conference held at Montreal, Quebec - Sponsored by Canadian Radio-Television and Telecommunications Commission and The Centre for the Study of Regulated Industries, McGill University, May 2 - 4, 1984.

"Long-Run Regulation of AT&T: A Key Element of A Competitive Telecommunications Policy"
Telematics, August 1984.

"Is Equal Access an Adequate Justification for Removing Restrictions on BOC Diversification?"

Presented at the Institute of Public Utilities Eighteenth Annual Conference, Williamsburg, VA - December 8 - 10, 1986.

"Market Power and Competition Under an Equal Access Environment"
Presented at the Sixteenth Annual Conference, "Impact of Deregulation and Market Forces on Public Utilities: The Future Role of Regulation"
Institute of Public Utilities, Michigan State University, Williamsburg, VA - December 3 - 5, 1987.

"Contestable Markets: Theory vs. Fact"
Presented at the Conference on Current Issues in Telephone Regulations: Dominance and Cost Allocation in Interexchange Markets - Center for Legal and Regulatory Studies Department of Management Science and Information Systems - Graduate School of Business, University of Texas at Austin, October 5, 1987.

"The Sources and Exercise of Market Power in the Market for Interexchange Telecommunications Services"
Presented at the Nineteenth Annual Conference - "Alternatives to Traditional Regulation: Options for Reform" - Institute of Public Utilities, Michigan State University, Williamsburg, VA, December, 1987.

"Assessing Market Power and Competition in The Telecommunications Industry: Toward an Empirical Foundation for Regulatory Reform"
Federal Communications Law Journal, Vol. 40 Num. 2, April 1988.

"A Perspective on Price Caps as a Substitute for Traditional Revenue Requirements Regulation"
Presented at the Twentieth Annual Conference - "New Regulatory Concepts, Issues and Controversies" - Institute of Public Utilities, Michigan State University, Williamsburg, VA, December, 1988.

"The Sustainability of Competition in Light of New Technologies" (with D. N. Townsend and P. D. Kravtin)
Presented at the Twentieth Annual Conference - Institute of Public Utilities Michigan State University, Williamsburg, VA, December, 1988.

"Adapting Telecom Regulation to Industry Change: Promoting Development Without Compromising Ratepayer Protection" (with S. C. Lundquist)
IEEE Communications Magazine, January, 1989.

"The Role of Cost Based Pricing of Telecommunications Services in the Age of Technology and Competition"
Presented at National Regulatory Research Institute Conference, Seattle, July 20, 1990.

"A Public Good/Private Good Framework for Identifying POTS Objectives for the Public Switched Network" (with Patricia D. Kravtin and Paul S. Keller)
Columbus, Ohio: *National Regulatory Research Institute*, September 1991.

"Telecommunications Regulation and Infrastructure Development: Alternative Models for the Public/Private Partnership"
Prepared for the Economic Symposium of the International Telecommunications Union Europe Telecom '92 Conference, Budapest, Hungary, October 15, 1992.

"Efficient Infrastructure Development and the Local Telephone Company's Role in Competitive Industry Environment" *Presented at the Twenty-Fourth Annual Conference, Institute of Public Utilities, Graduate School of Business, Michigan State University, "Shifting Boundaries between Regulation and Competition in Telecommunications and Energy"*, Williamsburg, VA, December 1992.

"Measurement of Telecommunications Productivity: Methods, Applications and Limitations" (with Françoise M. Clottes)
Presented at Organisation for Economic Cooperation and Development, Working Party on Telecommunication and Information Services Policies, `93 Conference "Defining Performance Indicators for Competitive Telecommunications Markets", Paris, France, February 8-9, 1993.

"Telecommunications Investment and Economic Development: Achieving efficiency and balance among competing public policy and stakeholder interests"
Presented at the 105th Annual Convention and Regulatory Symposium, National Association of Regulatory Utility Commissioners, New York, November 18, 1993.

"The Potential for Competition in the Market for Local Telephone Services" (with David N. Townsend and Paul S. Keller)
Presented at the Organization for Economic Cooperation and Development Workshop on Telecommunication Infrastructure Competition, December 6-7, 1993.

"Market Failure in Open Telecommunications Networks: Defining the new natural monopoly," *Utilities Policy*, Vol. 4, No. 1, January 1994.

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Commercially Feasible Resale of Local Telecommunications Services: An Essential Step in the Transition to Effective Local Competition, (Susan M. Gately, et al) a report prepared by ETI for AT&T, July 1995.

"Efficient Public Investment in Telecommunications Infrastructure"
Land Economics, Vol 71, No.3, August 1995.

Funding Universal Service: Maximizing Penetration and Efficiency in a Competitive Local Service Environment, Lee L. Selwyn with Susan M. Baldwin, under the direction of Donald Shepheard, A Time Warner Communications Policy White Paper, September 1995.

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"Market Failure in Open Telecommunications Networks: Defining the new natural monopoly," in *Networks, Infrastructure, and the New Task for Regulation*, by Werner Sichel and Donal L. Alexander, eds., University of Michigan Press, 1996.

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The Cost of Universal Service, A Critical Assessment of the Benchmark Cost Model, Susan M. Baldwin with Lee L. Selwyn, a report prepared by Economics and Technology, Inc. on behalf of the National Cable Television Association and submitted with Comments in FCC Docket No. CC-96-45, April 1996.

Economic Considerations in the Evaluation of Alternative Digital Television Proposals, Lee L. Selwyn (as Economic Consultant), paper prepared for the Computer Industry Coalition on Advanced Television Service, filed with comments in FCC MM Docket No. 87-268, In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, July 11, 1996.

Assessing Incumbent LEC Claims to Special Revenue Recovery Mechanisms: Revenue opportunities, market assessments, and further empirical analysis of the "Gap" between embedded and forward-looking costs, Patricia D. Kravtin and Lee L. Selwyn, In the Matter of Access Charge Reform, in CC Docket No. 96-262, January 29, 1997.

The Use of Forward-Looking Economic Cost Proxy Models, Susan M. Baldwin and Lee L. Selwyn, Economics and Technology, Inc., February 1997.

The Effect of Internet Use On The Nation's Telephone Network, Lee L. Selwyn and Joseph W. Laszlo, a report prepared for the Internet Access Coalition, July 22, 1997.

Regulatory Treatment of ILEC Operations Support Systems Costs, Lee L. Selwyn, Economics and Technology, Inc., September 1997.

The "Connecticut Experience" with Telecommunications Competition: A Case in Getting it Wrong, Lee L. Selwyn, Helen E. Golding and Susan M. Gately, Economics and Technology, Inc., February 1998.

Where Have All The Numbers Gone?: Long-term Area Code Relief Policies and the Need for Short-term Reform, prepared by Economics and Technology, Inc. for the Ad Hoc Telecommunications Users Committee, International Communications Association, March 1998, second edition, June 2000.

Broken Promises: A Review of Bell Atlantic-Pennsylvania's Performance Under Chapter 30, Lee L. Selwyn, Sonia N. Jorge and Patricia D. Kravtin, Economics and Technology, Inc., June 1998.

Building A Broadband America: The Competitive Keys to the Future of the Internet, Lee L. Selwyn, Patricia D. Kravtin and Scott A. Coleman, a report prepared for the Competitive Broadband Coalition, May 1999.

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Bringing Local Telephone Competition to Massachusetts, Lee L. Selwyn and Helen E. Golding, prepared for The Massachusetts Coalition for Competitive Phone Service, January 2000.

Subsidizing the Bell Monopolies: How Government Welfare Programs are Undermining Telecommunications Competition, Lee L. Selwyn, April 2002.

Dr. Selwyn has been an invited speaker at numerous seminars and conferences on telecommunications regulation and policy, including meetings and workshops sponsored by the National Telecommunications and Information Administration, the National Association of Regulatory Utility Commissioners, the U.S. General Services Administration, the Institute of Public Utilities at Michigan State University, the National Regulatory Research Institute at Ohio State University, the Harvard University Program on Information Resources Policy, the Columbia University Institute for Tele-Information, the International Communications Association, the Tele-Communications Association, the Western Conference of Public Service Commissioners, at the New England, Mid-America, Southern and Western regional PUC/PSC conferences, as well as at numerous conferences and workshops sponsored by individual regulatory agencies.